

Notes 8/11

Citing a lecture: go to original source

- class bibliography will be updated by Carolyn.

Be sure to include "age-appropriate application of teaching + learning theory"

"For middle school students _____ might be effective..."

↳ mentioning once is sufficient

Important take aways from Kirschner

- Cognitive load slows thinking
- minimally guided for students w/ stronger base
- room for more than one type of instruction
- learn best by example
- unguided can lead to misconceptions
- preference vs. effectiveness
- high achievers prefer direct method

Criticisms of Kirscher

- In order to make his point he had to create a "straw man" of constructivism
 - no prompting, scaffolding

Mrs. Oublier

- empathetic and sympathetic - us as teachers.
- train wreck - you see she can't execute the practices correctly and doesn't recognize it and isn't going to change
- author nitpicking? not just pedagogy. more minute things paper clips not handed out. not chanting rhythmically enough.
- author criticizing state for not supporting Mrs. O enough.
- not enough support for teachers
 - one workshop, one book
- patronizing tone. new framework better, her old methods wrong, current method ineffective.
- Always changing educational policy. Never know if it works.
- Education is a lot of trial + error. We test in the classroom.
- Theory can be great but if it can't be implemented, it might not be realistic.

Tools for Reform Teaching

How do you honor the mathematical contributions of students while still moving the mathematical agenda forward?

Telos: purpose, end point, directed learning goal

Simon ⁽¹⁹⁹⁵⁾ ~~Theoretical~~ Hypothetical Learning Trajectory.

- the learning goal
- learning activities
- hypothetical process

- * Sequencing: sequence student contributions
- * Transformational Records: graphical representations, notes and can be used to solve new problems
- * Using counter-examples. create disequilibrium
- * Selective revoicing. Highlight which student contributions are particularly valuable.
- * Scaffold student discourse

Questions for Video Viewing

1. What pedagogical tools does LP use in this lesson? How were they used? Did you notice other tools?

- ☐ Sequencing
- ☐ Transformational Records
- ☐ Counter examples
- ☐ Selective revoicing
- ☐ Scaffolding student discourse

• making a simpler problem/
problem solving strategy

• very little student engaging student

2. What might LP's hypothetical learning trajectory be? Is there evidence that LP diverts from this learning trajectory?

She went back to board to refer to learning goals
Justifying and generalizing was a learning goal
She diverted with how you would draw a box of indefinite size

3. How might Brooks & Brooks analyze LP's teaching?

She engaged students
Students were discovering + getting mat
She was lecturing or guided instruction?
Not hands-on enough - more physical representations.

4. Did LP provide evidence of *telos* (a directed learning goal)?

She is easily distracted.

~~now do~~